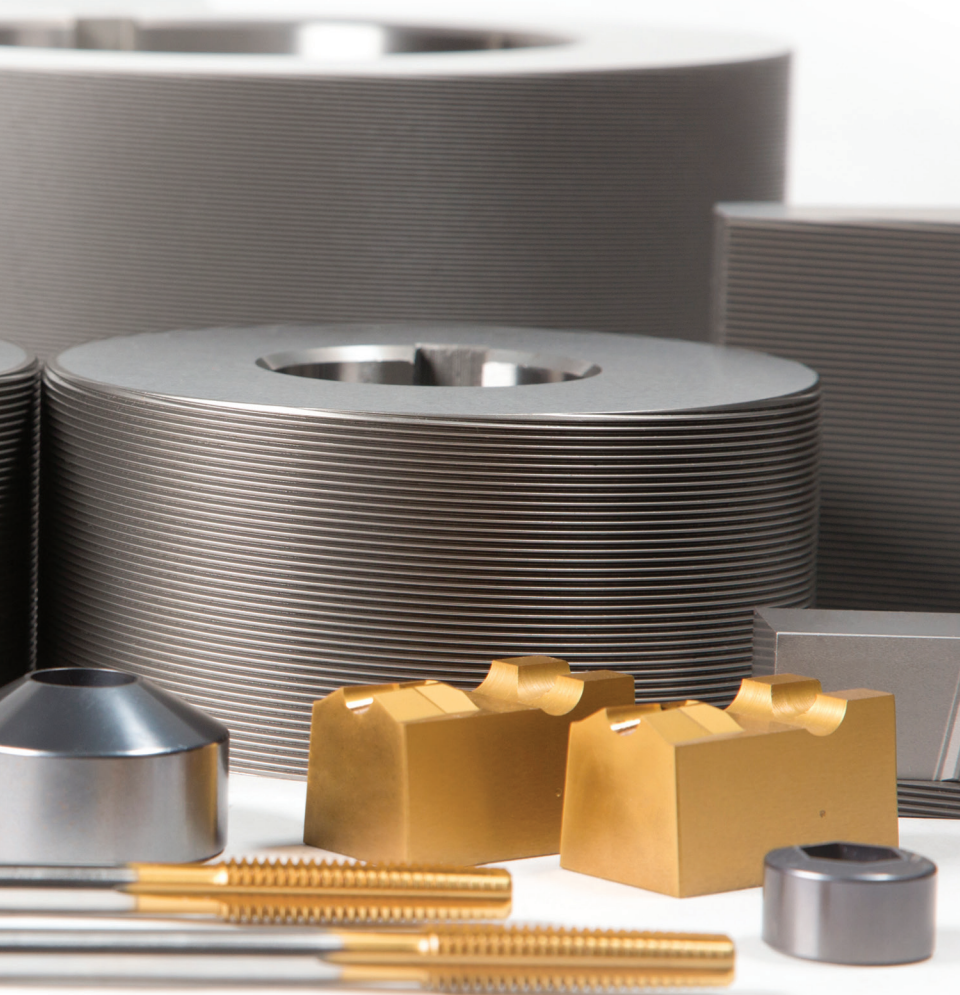




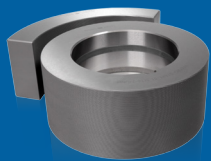
ONE SOURCE

Vol 4



FOR ALL YOUR FASTENER TOOLING NEEDS

FASTENER PRODUCTS



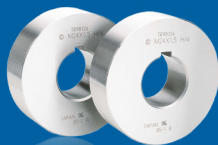
PLANETARY DIES

OSG Planetary Dies are produced in many different sizes for all machine makes and models. They are precision ground with controlled dimensions for uniform accuracy that is known throughout the industry.



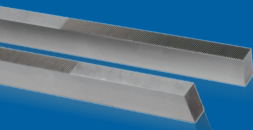
FLAT DIES

OSG Flat Dies are manufactured under strict manufacturing standards to ensure longer tool life, reduced down time and easier machine set-ups.



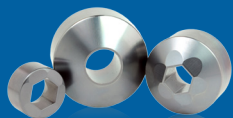
CYLINDRICAL DIES

OSG manufactures a wide range of Cylindrical Dies for applications such as Form, Worm, Spline and Knurling. They can be manufactured for use as In-Feed, Through-Feed or Annular.



RACK DIES

OSG Rack Dies ensure longer tool life and maintain production stability because they are made from the highest quality tool steel along with the latest heat treatment equipment. These dies are mainly used for automotive high volume production parts with involute spline and serrations.



TRIM DIES

OSG Trim Dies are made of the finest grade of HSS and are cold-press fitted and heat treated for maximum strength. A range of coatings are also offered based on specific customer applications.

FASTENER PRODUCTS

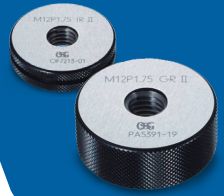
ROUND DIES

Round Dies are utilized to produce threads on external shafts (Ex. bolts). The size of the die typically dictates the design, in terms of whether it is solid round or split-round. OSG offers a complete line of round dies, available in fractional, metric and pipe thread configurations.



GAGES

OSG's superior technology and years of experience with thread grinding techniques ensure that our thread gages are made of the highest quality and accuracy. By using the most advanced materials, heat treatment furnaces, and manufacturing facilities, these gages provide the highest precision possible.



NUT TAP

The HY-PRO® Bent Shank Tap (BNT) and HY-PRO® Nib Tap (NBT) utilize superior geometry and coatings to maximize performance and tool life. OSG's unique design coupled with a wide selection of sizes and P.D. limits provides a variety of tooling options to choose from. HY-PRO® Short Nut Tap (SNT) is used by connecting to a bent shank or short shank.



SPECIALS

OSG has the capabilities of producing special dies such as cylindrical dies for serrations, ball burnishing dies, cylindrical dies for worm gears, pulley dies, through-feed dies for long length screws, cylindrical dies for end rolling heads, and many more.



BRANDS



STERLING



MATERIALS & TREATMENTS

SUBSTRATES USED

Standard tool steels: A-2, D-2 and Premium D-2

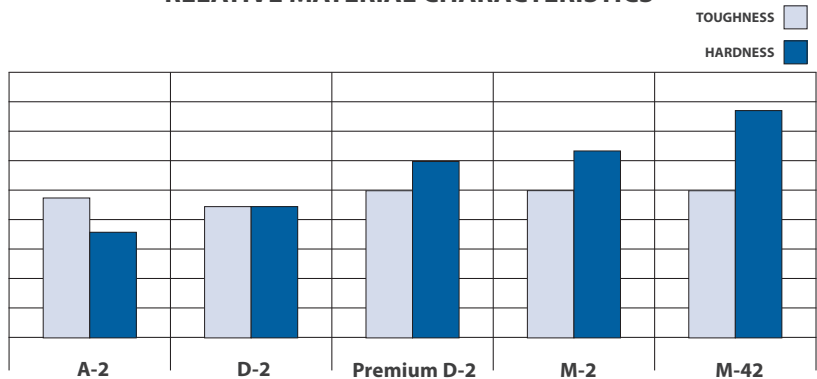
High Speed tool steels: M-2 and M-42

Various surface treatments available on Premium D-2, M-2 and M-42 steels

MATERIAL SELECTION

A-2	Tool steel with good toughness characteristics. Normally supplied on dies used for rolling tapping screw threads in general purpose applications.
D-2	Tool steel with good wear resistant properties. Normally supplied on dies used for rolling machine screw threads in general purpose applications.
Premium D-2	Premium tool steel with good wear and toughness characteristics. Normally supplied on dies for rolling longer runs and/or for stainless steel fasteners.
M-2	High speed steel offers increased die life when rolling selected stainless steel and heat treated fasteners.
M-42	Premium high speed steel for rolling fasteners of high tensile strength or hardness. Recommended for aircraft applications.

RELATIVE MATERIAL CHARACTERISTICS



MATERIALS & TREATMENTS

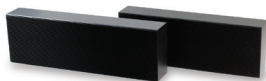
SURFACE TREATMENTS

OSG offers versatile surface treatments to extend the life of your fastener products.

SURFACE TREATMENTS						
TREATMENT	INFO	A-2	D-2	PREMIUM D-2	M-2	M-42
Gamma	A proprietary surface treatment which can be used on both tool steel and high speed steel dies to reduce fatigue failure.	✓	✓	✓	✓	✓
Nitride	A surface treatment which can be used on high speed steel and premium tool steel dies to increase wear resistance.			✓	✓	✓
SQT®	A premium patented surface treatment for high speed steel and premium tool steel to increase surface hardness, tool life, and productivity.			✓	✓	✓
BLACK ARMOR®	A proprietary Black Nitride surface treatment with great wear resistance used on high carbon tool steels that delivers longer tool life and greater productivity.			✓	✓	✓

BLACK ARMOR®

The perfect combination of rigidity and adhesion strength for superior wear resistance and prolonged tool life!



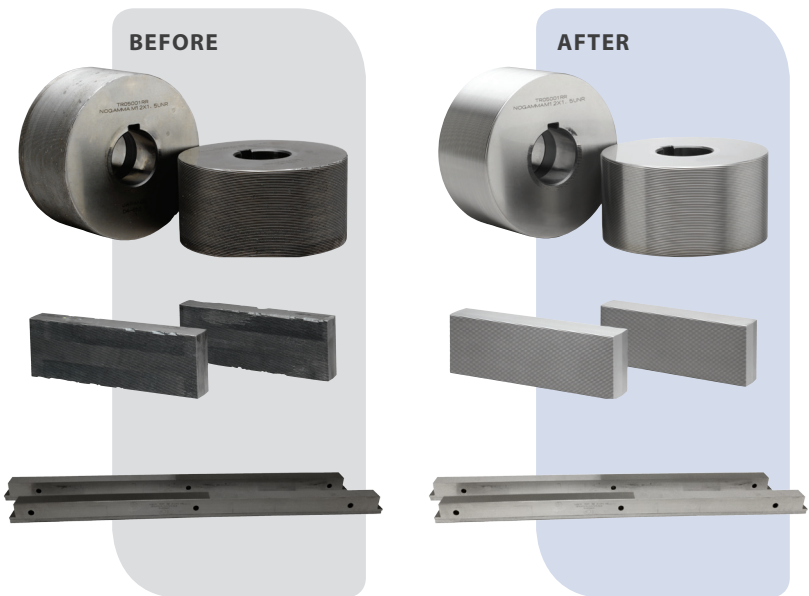
RECONDITIONING PROGRAM

RECONDITIONING SERVICE

OSG offers a die reconditioning service in the Parma, Ohio manufacturing facility. Utilization of this program can lead to significant cost savings over the cost of purchasing new tooling. Flat dies, cylindrical dies and rack dies can be reconditioned.

Flat dies are either reground by removing minimal material on the die thickness or reground to customer specification. Cylindrical dies are reground to the next suitable diameter for the requested pitch. Rack dies are reconditioned by removing the existing form profile and then regrinding a new profile. After grinding, a shim plate is attached to the rack to bring it into new rack dimensions.

Upon receipt of dies for reconditioning, OSG performs a full inspection to ensure that the dies are suitable for regrinding. If they are not suitable for regrind, they will be returned to the customer.



BENEFITS

- **QUALITY** - Extended tool life due to tighter tolerances and stringent standards equal to a new die.
- **FLEXIBILITY** - Reduce and eliminate slow moving inventory through a regrind conversion to new desired specs.

LICENSED & QUALIFIED

LICENSED PRODUCTS

OSG is licensed to supply thread rolling dies for many proprietary fastener designs. OSG engineers work closely with fastener design engineers to develop products which provide fastening solutions for the automotive, electronic and construction industries. After development, engineering data is maintained to support licensees with their production tooling requirements. OSG is restricted in supplying dies to only licensed fastener manufacturers.



LICENSED MATHREAD® PRODUCTS:

MATpoint®

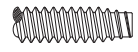


MATPOINT®

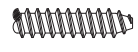


LICENSED TRILOBULAR™ PRODUCTS:

TAPTITE II®
DUO-TAPTITE®
POWERLOK®
KLEERLOK®
TAPTITE®
CA EXTRUDE-TITE®
PLASTITE®
PUSHTITE® II
TAPTITE 2000®
TAPTITE 2000® "SP"™
TAPTITE 2000® "CA"™
FASTITE® 2000™



TAPTITE®



PLASTITE®

LICENSED REMFORM™ PRODUCTS:

REMFORM®
REMFORM® 'F'



REMFORM®



LICENSED EJOT® PRODUCTS:

PT®
Delta PT®



DELTA PT®



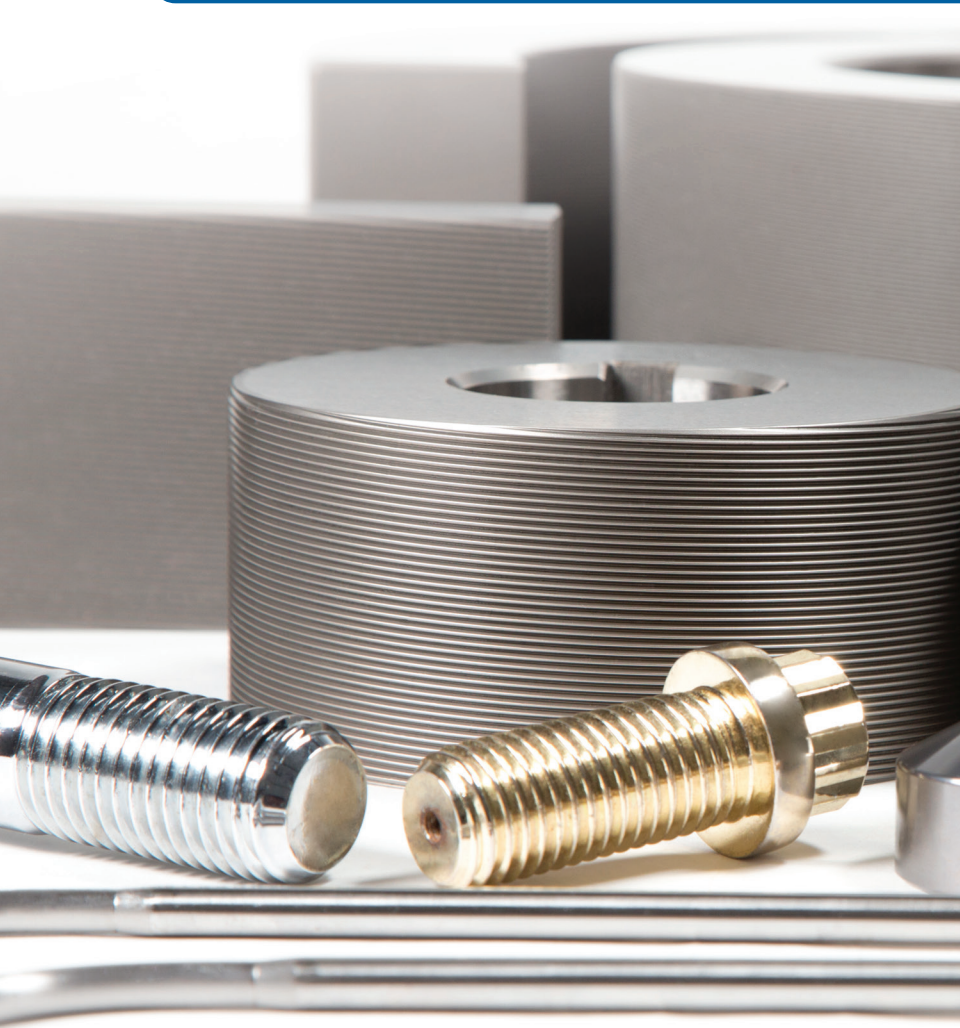
SAI GLOBAL
ISO 9001
Quality

MANUFACTURING QUALIFICATIONS

OSG is an ISO 9001-2008 certified company. All designs and manufacturing of products are in compliance with this standard.

The OSG Difference

The Parma, OH facility of OSG USA, INC. has served the fastener industry since 1948. We pride ourselves in the superior quality of our products, technical expertise of our staff and business integrity that we provide to our customers.



Sales and Manufacturing Facility

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EDP#800290CA-V4